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EXAMINER

CHANG, CHING

ART UNIT PAPER NUMBER

3748

DATE MAILED: 09/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/527,248

Applicant(s)

SAKURAI, MOTOKI

Examiner

Ching Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 11-62 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-49, and 61- 62 is/are allowed.
- 6) ☒ Claim(s) 50,51,53,54 and 57-60 is/are rejected.
- 7) ☒ Claim(s) 52, and 55-56 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/09/05</u> . | 6) <input type="checkbox"/> Other: ____.  |

### **DETAILED ACTION**

This Office acknowledges the Preliminary Amendment filed on 03/09/2005.

Claims 1-10 are cancelled, and new claims 11-62 are added as requested.

#### ***Specification***

1. The disclosure is objected to because of the following informalities:
  - The Applicant is required to insert a Paragraph after the title of the invention in the Specification, which states this instant application is a national stage application under 35 USC 371 based on International Application No. PCT/JP04/10879, filed on 07/23/2004, and further claims priority under 35 USC 119 of Japan Application No. 2003-207668, filed on 08/18/2003.Appropriate correction is required.

#### ***Claim Objections***

2. Claim 56 is objected to because of the following informalities:
  - " claim 50 " in line 1 of claim 56 should be -- claim 55 --.Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**4. *Claims 50-51, 53-54, and 57-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. (US Patent 5,121,716).***

Takahashi discloses a valve gear of an engine comprising: a camshaft (19) having a first valve gear cam (30) and a second valve gear cam (27); first and second rocker shafts (32, 31) arranged such that the camshaft is disposed between the first and second rocker shafts; a first rocker arm (24) swingably supported on the first rocker shaft and having a roller (36) bearing at one end thereof, the roller bearing of the first rocker arm being arranged to contact with the first valve gear cam; and a second rocker arm (21) swingably supported on the second rocker shaft and having a roller (33) bearing at one end thereof, the roller bearing of the second rocker arm being arranged to contact with the second valve gear cam; wherein the first and second valve gear cams of the camshaft, respectively, include a base circle and a cam nose projecting from the base circle, and the first rocker arm and the first valve gear cam are arranged such that the first rocker shaft is not moved in a direction in which the roller bearing of the first rocker arm is moved when the cam nose of the first valve gear cam contacts and pushes up the roller bearing of the first rocker shaft; wherein the first rocker shaft is arranged to support the first rocker arm and is positioned forwardly of a center line which passes through a center of the camshaft to extend axially of a cylinder (3) in a direction of rotation of the camshaft, and the second rocker shaft is arranged to support the second rocker arm and is positioned rearwardly of the center line in the direction of

rotation of the camshaft (See Figs. 2-4); wherein the second rocker arm and the second valve gear cam are arranged such that when the roller bearing of the second rocker arm contacts with the base circle of the second valve gear cam, the second rocker shaft is located farther away from the camshaft than a center of rotation of the roller bearing of the second rocker arm; wherein the first rocker arm opens and closes at least one exhaust valve ( $V_E$ ) and the second rocker arm opens and closes at least one intake valve ( $V_I$ ).

5. ***Claims 50-51, 53-54, and 57-60 are rejected under 35 U.S.C. 102(b) as being anticipated by Maeda et al. (JP '938).***

Maeda discloses a valve gear of an engine comprising: a camshaft (19) having a first valve gear cam (30) and a second valve gear cam (27); first and second rocker shafts (32, 31) arranged such that the camshaft is disposed between the first and second rocker shafts; a first rocker arm (24) swingably supported on the first rocker shaft and having a roller (36) bearing at one end thereof, the roller bearing of the first rocker arm being arranged to contact with the first valve gear cam; and a second rocker arm (21) swingably supported on the second rocker shaft and having a roller (33) bearing at one end thereof, the roller bearing of the second rocker arm being arranged to contact with the second valve gear cam; wherein the first and second valve gear cams of the camshaft, respectively, include a base circle and a cam nose projecting from the base circle, and the first rocker arm and the first valve gear cam are arranged such that the first rocker shaft is not moved in a direction in which the roller bearing of the first rocker arm is moved when the cam nose of the first valve gear cam contacts

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and pushes up the roller bearing of the first rocker shaft; wherein the first rocker shaft is arranged to support the first rocker arm and is positioned forwardly of a center line which passes through a center of the camshaft to extend axially of a cylinder (3) in a direction of rotation of the camshaft, and the second rocker shaft is arranged to support the second rocker arm and is positioned rearwardly of the center line in the direction of rotation of the camshaft (See Figs. 2-3); wherein the second rocker arm and the second valve gear cam are arranged such that when the roller bearing of the second rocker arm contacts with the base circle of the second valve gear cam, the second rocker shaft is located farther away from the camshaft than a center of rotation of the roller bearing of the second rocker arm; wherein the first rocker arm opens and closes at least one exhaust valve ( $V_E$ ) and the second rocker arm opens and closes at least one intake valve ( $V_I$ ).

6. ***Claims 50-51, 53-54, and 57-60 are rejected under 35 U.S.C. 102(e) as being anticipated by Onoue (US patent 6,705,264).***

Onoue discloses a valve gear of an engine comprising: a camshaft (118) having a first valve gear cam (202) and a second valve gear cam (204); first and second rocker shafts (212, 220) arranged such that the camshaft is disposed between the first and second rocker shafts; a first rocker arm (210) swingably supported on the first rocker shaft and having a roller (226) bearing at one end thereof, the roller bearing of the first rocker arm being arranged to contact with the first valve gear cam; and a second rocker arm (214) swingably supported on the second rocker shaft and having a roller (226) bearing at one end thereof, the roller bearing of the second rocker arm being arranged

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to contact with the second valve gear cam; wherein the first and second valve gear cams of the camshaft, respectively, include a base circle and a cam nose projecting from the base circle, and the first rocker arm and the first valve gear cam are arranged such that the first rocker shaft is not moved in a direction in which the roller bearing of the first rocker arm is moved when the cam nose of the first valve gear cam contacts and pushes up the roller bearing of the first rocker shaft; wherein the first rocker shaft is arranged to support the first rocker arm and is positioned forwardly of a center line which passes through a center of the camshaft to extend axially of a cylinder (82) in a direction of rotation of the camshaft, and the second rocker shaft is arranged to support the second rocker arm and is positioned rearwardly of the center line in the direction of rotation of the camshaft (See Figs. 2, 4-5); wherein the second rocker arm and the second valve gear cam are arranged such that when the roller bearing of the second rocker arm contacts with the base circle of the second valve gear cam, the second rocker shaft is located farther away from the camshaft than a center of rotation of the roller bearing of the second rocker arm; wherein the first rocker arm opens and closes at least one exhaust valve (130) and the second rocker arm opens and closes at least one intake valve (114).

***Allowable Subject Matter***

7. Claims 1-49, and 61-62 are allowed.
8. Claims 52, and 55 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ching Chang whose telephone number is (571)272-4857. The examiner can normally be reached on M-Th, 7:00 AM -5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571)272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Patent Examiner

A handwritten signature in cursive script, appearing to read "Ching Chang".

Ching Chang